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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WANG, QUAN ZHEN

ART UNIT	PAPER NUMBER
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2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/617,982	Applicant(s) HOCHBAUM, SHIMON	
	Examiner Quan-Zhen Wang	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-22, 24-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11, 12 and 14-17 is/are allowed.
- 6) ☒ Claim(s) 1-10, 18-22 and 24-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 211. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2613

3. Claims 1-10 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art (prior art fig. 1 of the instant application) in view of Kidder et al. (U.S. Patent Application Publication US 2004/0031030 A1).

Regarding claims 1, 6, and 21, the Admitted Prior Art (prior art fig. 1 of the instant application) teaches an optical line terminal device (prior art fig. 1, OLT 110) comprising: an optical transmitter (prior art fig. 1, optical transmitter 112) to receive downstream information, and outputs downstream light pulses that represent the downstream information (the instant application: page 3, lines 11-19); an optical receiver (prior art fig. 1, optical receiver 114) to receive upstream light pulses and converts the upstream light pulses into upstream information (the instant application: page 3, lines 20-25); and a controller (prior art fig. 1, controller 120) connected to the optical transmitter and the optical receiver, the controller including: a memory (prior art fig. 1, memory 120A) to store a first identifier representing a first optical device (fig. 1, ONT1-ONTn) that is connected to an end (fig. 1, EP1-Epn) of a single network cable; and a processor (prior art fig. 1, CPU 120B) connected to the memory that prepares the downstream information for the optical transmitter, and receives the upstream information from the optical receiver. The Admitted Prior Art (prior art fig. 1 of the instant application) differs from the claimed invention in that the Admitted Prior Art (prior art fig. 1 of the instant application) does not specifically teach that the memory stores a second identification number representing a second optical device that is to be connected to the end of the single network cable after the first optical device has been physically removed from the

Art Unit: 2613

end of the single network cable. However, it is well known in the art to have a replacement for a fault network device and store an identifier of the replacement network device. For example, Kidder teaches to have a second network device to replace a fault network device and store an identifier of the replacement network device (paragraphs 0865-0870). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to have a second network device to be connected to an end point and configure the controller to store an identification number representing the device, as it is taught by Kidder, in the system of the Admitted Prior Art (prior art fig. 1 of the instant application) in order to provide fault tolerance within a network.

As to claim 21, the Admitted Prior Art (prior art fig. 1 of the instant application) further teaches to store a network end point number which can be interpreted as the claimed "first identification number". The first identification number representing a first optical device above can be interpreted as the claimed "second identification number"; and the second identification number representing a second optical device above can be interpreted as the claimed "third identification number".

Regarding claims 2, 7, and 22, the Admitted Prior Art (prior art fig. 1 of the instant application) further teaches the downstream information includes a first identification number when a first optical device is connected to the network end point (the instant application, page 5, lines 20-29). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a second identification number when a second optical device is connected to the network end point, since it is

Art Unit: 2613

mere duplication of the essential working steps which involves only routine skill in the art.

Regarding claims 3 and 8, the Admitted Prior Art (prior art fig. 1 of the instant application) further teaches that the first downstream information output by controller includes the active identity number of an optical network terminal. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to remove the first identification number from the downstream information and replace with the second identification number when the first optical device fails to respond to the downstream information in order to send information data to the second optical device which replaces first optical device.

Regarding claims 4 and 9, the Admitted Prior Art (prior art fig. 1 of the instant application) further teaches that the first optical device is an optical network terminal (prior art fig. 1, ONT1).

Regarding claims 5 and 10, the second optical device is inherently an optical network terminal since the second optical device is the replacement of the first optical device.

4. Claims 18-20, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art (prior art fig. 1 of the instant application) in view of Kidder et al. (U.S. Patent Application Publication US 2004/0031030 A1) and further in view of Daudelin et al. (U.S. Patent US 6,591,389 B1).

Regarding claims 18 and 24, the Admitted Prior Art (prior art fig. 1 of the instant application) and Kidder have been discussed above in regard to claim 1. The modified

Art Unit: 2613

system of APA and Kidder further discloses a network having a number of cables (APA OF1-Ofn). The modified system of the Admitted Prior Art (prior art fig. 1 of the instant application) and Kidder differs from the claimed invention in that the Admitted Prior Art (prior art fig. 1 of the instant application) and Kidder do not specifically teach dispatching a technician to the network end point to service the network end point. However, it is well known business strategy in the art to dispatch a technician to the network end point to service the network end point because of the complexity of the electronics and optical components. For example, Daudelin discloses to dispatch a technician to fix or replace a failed circuit pack (column 8, lines 24-28). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to dispatch a technician, as it is disclosed by Daudelin, for the modified transmission system of the Admitted Prior Art (prior art fig. 1 of the instant application) and Kidder in order to minimize the interruption of the network service in case the first optical device malfunctions.

Regarding claim 19, Kidder further teaches to remove the first network device from the network end point; and installing the second (the replacement) network device to the network end point.

Regarding claim 20, the modified system of the Admitted Prior Art (prior art fig. 1 of the instant application), Kidder, and Daudelin further differs from the claimed invention in that the Admitted Prior Art (prior art fig. 1 of the instant application), Kidder, and Daudelin do not specifically teach: inspecting the first optical device and determining whether the first optical device can be fixed within a predefined period of

time; fixing the first optical device when the first optical device can be fixed within the predefined period of time; removing the first optical device from the network end point when the first optical device can not be fixed within the predefined period of time; and installing the second optical device to the network end point after the first optical device has been removed. However, Daudelin discloses to dispatch a technician to fix, or replace a failed circuit pack (column 8, lines 26-28). The process implicitly includes the steps of inspecting the device and determining whether the device can be fixed within a predefined period of time; fixing the device when the device can be fixed within the predefined period of time; removing the device if the device can not be fixed within the predefined period of time; and installing the replacement after the device has been removed. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to inspect the first optical device and determining whether the first optical device can be fixed within a predefined period of time; fix the first optical device when the first optical device can be fixed within the predefined period of time; remove the first optical device from the network end point when the first optical device can not be fixed within the predefined period of time; and install the second optical device to the network end point after the first optical device has been removed at the network end point of the modified system of the Admitted Prior Art (prior art fig. 1 of the instant application), Kidder, and Daudelin in order to minimize the interruption of the network service in case the first optical device malfunctions.

Art Unit: 2613

5. Claims 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art (prior art fig. 1 of the instant application) in view of Kidder et al. (U.S. Patent Application Publication US 2004/0031030 A1) and Daudelin et al. (U.S. Patent US 6,591,389 B1) and further in view of Qin et al. (U.S. Patent US 6,646,777 B2).

Regarding claim 25, the modified system does not specifically teach that the functioning network device is fully functioning is only partially functioning. However, it is well known in the art to replace, repair, or upgrade optical devices. For example, Qin discloses to replace, repair, or upgrade optical devices (column 16, lines 33-49). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to replace a fully in order to upgrade a lower version network device.

6. Claim 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art (prior art fig. 1 of the instant application) in view of Kidder et al. (U.S. Patent Application Publication US 2004/0031030 A1) and Daudelin et al. (U.S. Patent US 6,591,389 B1) and further in view of Neeley et al. (U.S. Patent Application Publication 2003/0012485 A1).

Regarding claims 26 and 27, the modified system does not specifically teach to remove a partially functioning device and the steps of steps of removing the functioning network device from the end of the cable after the replacement network device has been associated to the functioning network device; reinstalling the functioning network device to the end of the cable if full functionality can be provided with the functioning

Art Unit: 2613

network device within a predetermined period of time; installing the replacement network device to the end of the cable if full functionality can not be provided with the functioning network device within a predetermined period of time; and alternately sending the network information to the functioning network device and the replacement network device until one of the devices receives the network information. However, it is well known in the art to remove or install optical devices, including partially functioning devices. For example, Neeley discloses to remove or install "hot-swap" optical devices (paragraph 0022). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to remove partially functioning devices and to include the steps of removing the functioning network device from the end of the cable after the replacement network device has been associated to the functioning network device; reinstalling the functioning network device to the end of the cable if full functionality can be provided with the functioning network device within a predetermined period of time; installing the replacement network device to the end of the cable if full functionality can not be provided with the functioning network device within a predetermined period of time; and alternately sending the network information to the functioning network device and the replacement network device until one of the devices receives the network information in order to upgrade a lower version network device or replacing a malfunctioning device.

Art Unit: 2613

network device within a predetermined period of time; installing the replacement network device to the end of the cable if full functionality can not be provided with the functioning network device within a predetermined period of time; and alternately sending the network information to the functioning network device and the replacement network device until one of the devices receives the network information. However, it is well known in the art to remove or install optical devices, including partially functioning devices. For example, Neeley discloses to remove or install "hot-swap" optical devices (paragraph 0022). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to remove partially functioning devices and to include the steps of removing the functioning network device from the end of the cable after the replacement network device has been associated to the functioning network device; reinstalling the functioning network device to the end of the cable if full functionality can be provided with the functioning network device within a predetermined period of time; installing the replacement network device to the end of the cable if full functionality can not be provided with the functioning network device within a predetermined period of time; and alternately sending the network information to the functioning network device and the replacement network device until one of the devices receives the network information in order to upgrade a lower version network device or replacing a malfunctioning device.

Response to Arguments

7. Applicant's arguments filed on December 19, 2006 with respect to rejections of claims 1-10 and 18-22 under U.S.C. 103(a) have been fully considered but they are not persuasive.

8. Regarding claim 1, the APA discloses every limitation of the structure of the claimed invention except the APA does not specifically disclose that the memory stores a second identifier corresponding to a second device. However, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function alone (See MPEP §2114). For this case, the structure of the APA and the claimed invention is identical (see the APA fig. 1 and claimed system in fig.2). The only difference is the function alone, namely the memory of the claimed invention stores a second identifier corresponding to a second device. But even Applicant admits that, in addition to a first identifier, a memory can store "a value that represents a replacement ONT, the results of an equation, or the user's mother's maiden name" (see page 13 of Applicant's Remarks filed on December 19, 2006). That is to say that, even according to Applicant's own admission, what would be stored in the memory is really up to a user of the system. A user can configure the memory to store "the user's mother's maiden name" and it is obvious that the memory can store a second identifier. In addition, it is well known in the art to have a replacement for a fault network device and store an identifier of the replacement network device. For example, Kidder teaches to have a second network device to replace a fault network device and store an identifier of the

Art Unit: 2613

replacement network device (paragraphs 0865-0870). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to have a second network device to be connected to an end point and configure the controller to store an identification number representing the device, as it is taught by Kidder, in the system of the Admitted Prior Art (prior art fig. 1 of the instant application) in order to provide fault tolerance within a network. It is clear that the prior art references teach every limitation of the claimed invention and the rejection of claim 1 still stands. For the same reasons, the rejections of claims 2-10 and 21-23 still stand.

9. Regarding claims 18 and 24, as it is discussed in regard with claim 1, the modified system of the APA and Kidder discloses associating a first identifier with a first device and a second identifier with a second device (Kidder, paragraphs 0865-9866) and a functioning device continues receive network information when the replacement device is not connected to the network. As to "dispatching a technician" to service a device, it might have been known and practiced for hundreds of years. Obviously it is not something new and uniquely invented by the Applicant. Furthermore, Daudelin specifically discloses to dispatch a technician to service a device ("fix or replace a failed device"; column 8, lines 24-28). Therefore, the rejection of claims 18 and 24 still stands. For the same reasons, the rejections of claims 19-20 and 25-27 still stand.

Allowable Subject Matter

10. Claims 11-17 are allowed.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sutherland et al. (U.S. Patent Application Publication US 2003/0177215 A1) disclose an apparatus for uses in a point-to-multipoint network. Sala et al. (U.S. Patent Application Publication US 2003/0152389 A1) disclose filtering and forwarding frames at an optical line terminal. Garg et al. (U.S. Patent Application Publication US 2003/0078947 A1) disclose methods for assigning unique identifiers in a distributed fault tolerant application.


Art Unit: 2613

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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